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Brief report of a pilot study on influences in teaching and learning based on a study conducted by Dr. Everett K. Wilson, Professor of Sociology, at Antioch College. This report, the fourth in a series dealing with research and new program studies, is based on the results of a questionnaire distributed to 53 Antioch seniors basically asking the student "who" taught him "what."

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ANTIOCH COLLEGE REPORTS

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4 Effecting Change in the College Student: Who Teaches What?

Although colleges and universities have existed for centuries, most teachers have much to learn about the process that engages them. What effect does the teacher have? What are the other influences that come into play during the students' lives, and how do they affect their intellectual and personal development? This is a report on a pilot study on influences in teaching and learning—the fourth in a series of reports dealing with research and new program studies under way at Antioch College. The report was prepared by Dr. Everett K. Wilson, Professor of Sociology, and is based on a study conducted by him at the College.

Introduction

The college teacher is a curious creature. Often a clerk, sometimes administrator, occasional counselor and therapist, local citizen in residence but broadly engaged both by national or international interests and professional claims, preoccupied with others' children to the neglect of his own, referee, consultant, research man, writer—his is a diffuse and indeterminate role. But aside from the unnerving spread of this Poohbah's role, there is a more serious problem. The college teacher is a patchwork of paradoxes, and the greatest of these is the claim to be two things simultaneously, pedagogue and professional, teacher and specialist in what he teaches. These counterclaims are rarely reconciled.

After seven to ten years of higher education, he typically embarks on a teaching career with little or no technical training in pedagogy, the task to which he will devote most of his working hours. If he is sensitive to his failings, he will spend much of his career in bumbling trial and error, seeking the pedagogical password. The output of the task to which he devotes most of his life goes unevaluated; his incidental research and writing are likely to be assessed with the greatest care. He celebrates reason but acts, persistently, on faith. For he assumes that he is altering others' behavior, their ways of thinking. Yet if he has any evidence on this score, it is the flimsiest, self-persuading sort of evidence (as, e.g., a final examination demanding the regurgitation of material whose source, relevance, retention, and ultimate use are matters of murky obscurity). Should someone propose that this process be scrutinized in the light of the same reason that he elsewhere honors, he is likely to guard the mystic alchemy of the teaching process, declaring it an ineffable thing beyond calculation. He would not threaten the delicate equipoise of student-teacher relationship by committing, as Auden put it, "a social science."

If in his daily work the teacher prefers the sylvan shades of mystery to demonstable *veritas*, there will be little *lux* to shed on the question: "What am I doing?" Indeed, the answer to this critical question is by no means clear. For the teacher can claim credit (or accept the blame!) for changes occurring in the student between the latter's entrance and exit only after the influence of all other change agents has been accounted for. These other "teachers" may be numerous. Some may be powerful despite—perhaps because of—the unintended nature of the teaching. His peers may be just such influential, uncommissioned teachers for the student.

Fellow Students as Teachers

Some time ago a group of social scientists judged that the output of a given college, the attributes of its graduates, were to be accounted for by initial selection, peer influence, and tutelage, *in that order*—while recognizing, of course, that these three factors interpenetrate.[1]

There is reason to think that the student's peers may be important teachers if for no other reason than that our society increasingly isolates the young from the adult world. They produce an adolescent subculture whose boundaries are defined by age, class, and neighborhood, reenforced by the sanctions of fellow students. Insofar as this subculture is eccentric to the mainstream of adult life, the school performs an important protective function. But while the school is acting as a custodian, what is happening in that complex orchestration of experience that we call "education"? What is being learned? by whom? and by whom is it being taught?

In a recent study of ten midwestern high schools, James Coleman provided some instructive evidence as to

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[1] Newcomb, Theodore M., "The General Nature of Peer Group Influence," Chap. I in Newcomb, Theodore M. and Wilson, Everett K. (eds.), *The Study of College Peer Groups: Problems and Prospects for Research*. Mimeographed. New York: Social Science Research Council, 1960.

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ways student peer groups can influence academic achievement. Relating student subculture within these schools to grade patterns, Coleman found that top grades went to students of exceptional ability *only where* the student population itself honored academic achievement. Where the life of the intellect was not esteemed among the student's peers —and this seemed often to be the case—students with high grade records were those of mediocre aptitude, unable to achieve in activities honored by their fellows (interscholastic athletics and social life). So it happens that "the 'intellectuals' of such a society . . . will not, in fact, be those with most intellectual ability."[2] Thus an unofficial curriculum taught by unhired teachers supplements, if it does not supplant, the ostensible teacher and nominal curriculum.

The *de facto* educational system is not, then, identical with those officially designated as teachers and students. Educational functions may be performed by a wide variety of agents and in many ways. We are marvelously ignorant about the changes stemming from allegedly educational experiences, and from experiences not identified as educational. Not only are we uninformed about what is, in fact, learned. We are quite ignorant of the teacher's identity. (Some measure of our erroneous attribution of the customarily measured learnings to the influence of the teacher was discussed in an earlier *Antioch College Reports.*)[3]

Asking the Student Who Taught Him What

Now, it can be argued that the probability of peer influence is increased as the influence of other change agents is found to be slighter than imagined. Suppose we were to attack this problem from the perspective of the person presumably affected, the student. There is something novel and perhaps naïve in the straightforward approach of asking the student. But we are not constrained to lean heavily upon the accuracy of the senior student's response to the question: "As you reflect upon your four years in college, what do you see as significant changes in yourself that have occurred during this period?" There is inevitably error in such a retrospective, introspective process. Yet however tentatively, we may learn something useful about the range of learnings stemming from peer group influence as the student names the significant changes he thinks he has experienced. If, in addition, we ask the question: "How did these changes come about?" we may get some clues as to the relative significance of peers and other agents in inducing these changes.

Acting on these notions, we did the following things: (1) We made a content analysis of twenty-five college senior papers,[4] extracting all statements bearing on change, time, place, and agent of change. (2) We developed a questionnaire, the first part an open-ended inquiry about changes perceived in self, the latter part an ordered check list of the ninety-eight change items previously revealed in the analysis of senior papers. (3) After six sociology seniors had tried this questionnaire on themselves, criticized and revised it, a pilot group of fourteen more seniors responded to it in interviews. (4) Finally, a systematic random sample of fifty-three students was taken among the remaining seniors. Using the revised schedule of questions, they were interviewed by students studying field methods under the tutelage of Raymond L. Gorden, Associate Professor of Sociology, a specialist in interview techniques. (Results of interviews with three of the seniors were submitted late, and were not included in the first tally of responses.) Their responses provided tentative answers to these questions: Who were the change agents, the "teachers?" Where did his peers stand among these teachers? What sort of changes did such senior students deem significant? How did strength of peer influence shift from one type of educational event to another?

Results

The "Teachers" as Seen by College Seniors

First, who were the change agents? Table I presents the answer, as these college seniors saw it. Unfortunately,

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[2] Coleman, James S., "The Academic Subculture and Academic Achievement," *American Journal of Sociology*, LXV (1960), 337-47.

[3] Baskin, Samuel, "Experiment in Independent Study," *Antioch College Reports*, No. 2, March, 1961.

[4] In this paper formerly required of all Antioch seniors, the student reviewed his college career, discussing his development, his current views, plans, and prospects.

TABLE I. AGENTS OF CHANGE, OR SOURCE OF CHANGE, REPORTED BY 50 ANTIOCH SENIORS (MAY, 1960)*

The "Teacher" or Change Agent	*% of All Changes Attributable to Specified "Teacher"*
An academic course	17%
A work experience (In Antioch's work-study program)	15
Just growing up, maturation, self-development	13
Influence of fellow student	10
A teaching (academic) faculty member	8
Community program, Antioch atmosphere	7
Antioch Education Abroad program†	5
A book or an author (not course-related)	2
Spouse	2
Family, employer, fellow employee, special project	2
Physician, minister	1
An extramural faculty member	1
Experience/relationship with others generally	1
Miscellaneous	11
Agent unknown or no answer	4
Total	99%‡

* Total number of significant changes specified by participating seniors = 1,412.
† Only 21 of the 50 respondents had had AEA experience.
‡ Does not add up to 100 per cent because of rounding.

these agents of change, or "teachers," do not represent coordinate analytical categories. They include persons, processes, and situations. They range from the specific to the general, from the clear to the obscure. But they do reveal—and this is what matters here—the very considerable range of influences that must be taken into account if we are to understand what happens to a student between the points of college entrance and exit. For more than a dozen agents or agencies are noted in this table and these condense a far longer list. Ten per cent of the 1,412 changes mentioned are attributed to the influence of respondents' peers. For some of us it will be reassuring to see that 17 per cent of the changes are accounted for by the impact of a course. Add to this the proportion of all changes attributed to the teaching faculty (8 per cent) and the total influence from these conventional sources mount to 25 per cent, a disenchanting estimate of academic power.

If we consider, separately, the 233 reported changes in the intellectual sphere,[5] the influence of fellow students drops: His peers were remembered as influential in 6 per cent of changes in this category; whereas teachers and classes, together, were held responsible for 37 per cent of intellectual changes; and maturation—just growing up—was felt to account for 15 per cent of such changes. It is worth nothing, also, that 9 per cent of their significant intellectual changes were attributed by these seniors to their work experiences.

An almost identical number of the reported changes had to do with the development of interest in new fields.[6] Here courses and teachers appear to have been somewhat more influential for, taken together, they accounted for 41 per cent of new interests, tastes, and appreciations developed. But even here his peers were not insignificant influences for they were listed as the responsible agents in 11 per cent of the cases. Except for changes in the intellectual sphere (6 per cent) and influence upon career choice and planning (4 per cent), the frequency with which peers were mentioned as effective agents is above 10 per cent in every case: changes in world view and personal philosophy, in personality development, in ability to work, play, and deal with others (social development), and in attitude toward the college.

What Was Taught?

Table II summarizes the kinds of changes that were salient in seniors' minds when they were asked, in an open-ended question, to reflect on their college careers and report the changes they deemed most significant. The data suggest an order of significance and salience not likely to have been anticipated by those of us officially presiding over the learning process.

TABLE II. FREQUENCY WITH WHICH 73 ANTIOCH COLLEGE SENIORS REPORTED PERCEIVED CHANGES, BY TYPE OF CHANGE, IN ANSWER TO THE OPEN-ENDED QUESTION: "WILL YOU PLEASE TELL ME, BRIEFLY, WHAT YOU REGARD AS THE MOST IMPORTANT CHANGES IN YOURSELF THAT HAVE OCCURRED SINCE YOU CAME TO ANTIOCH AS A FRESHMAN?"*

Type of Change	*% of All Changes Falling in This Category*
World view and personal philosophy	40%
Personality changes	25
Intellectual changes	12
Development of interest in new fields	8
Social development	7
Career plans and choices	5
Attitudes toward Antioch College	3
Total	100%

* Number of changes mentioned = 718.

Teachers or change agents had different patterns of influence, according to these seniors, in producing the several varieties of change as we have classified them in Table II. The influence of the teaching faculty, e.g., bore chiefly on intellectual changes (37 per cent of all the changes attributable to this agent). Seventeen per cent of the changes assigned to the influence of formal teachers had to do with changes in world view and personal philosophy; and another 17 per cent bore on career plans and choices. A small proportion of their total influence—less than in the case of fellow students—was registered in stimulating interest in new fields. Twelve per cent of all changes attributable to faculty fell in this category in contrast to 18 per cent of all changes assigned to peers. Of all changes attributed by the senior to his fellow students, 18 per cent were changes affecting personality development. Peer influence was thought to have its greatest impact on social development, 19 per cent of all changes assigned to the influence of fellow students falling in this category.

Diffuse Vs. Specific Change Agents

Some change agents reported by the seniors appear to have been broadly influential in inducing a wide variety of changes across the board, while others, apparently, were quite specific in their influence. Table III presents change agents in rank order, from those that had the most diffuse influence to those that had the most specific influence. For example, work experience was reported as inducing changes in each of the seven change categories. In none of these categories does the per cent of all changes effected fall below 9 per cent. To take the other extreme, changes wrought

[5] This category included changes in: desire for knowledge for its own sake, for its usefulness as a means to other ends; degree of academic indolence, excitement in learning; amount of outside reading; number of books read and owned; ability to integrate ideas; originality in thought; critical abilities; ability in logical analysis; attitude toward importance of good grades, of getting a degree and the like. Changes in a direction that would be deemed bad by the academician were few in number.

[6] This category included: awakened interest in national and foreign affairs, interest in politics, religious interests, religious conviction, music appreciation, understanding of and interest in the plastic and graphic arts, interest in and understanding of the physical sciences, interest in sports, participation in them, interest in life sciences, etc.

TABLE III. RANK ORDER OF CHANGE AGENTS, FROM THOSE HAVING MOST DIFFUSE INFLUENCE TO THOSE HAVING MOST SPECIFIC INFLUENCE, AS REPORTED BY 50 ANTIOCH COLLEGE SENIORS (1960)

Rank Order	*Agent of Change Reported by Seniors*	*Area of Greatest Influence*
1	Miscellaneous (e.g., fellow traveler on ship)	
2	Family, employer, fellow employee, a special project	
3	Work experience	
4	Growing up, maturation, self-development	
5	Fellow student	
6	Spouse	
7	Antioch atmosphere, community program	
8	Agent unknown or not ascertained	
9	Antioch Education Abroad	Personal/Social Development
10	Teaching faculty	Intellectual
11	Course	Development of interest in new fields
12	Book/author, not course related	World view and personal philosophy
13	Physician, minister	World view and personal philosophy
14	Experience, relationship with others generally	Social development
15	Extramural faculty	Attitude toward Antioch

by the extramural faculty[7] appear to be more narrowly focused, 79 per cent of them having to do with changed attitude toward the college, 16 per cent bearing on intellectual changes and 5 per cent affecting social development.

It is worth remarking that among the significant changes attributed by seniors to their course experiences, the dominant change was the arousal of interest in new fields. The influence of the Antioch Education Abroad program[8] appears to have been relatively diffuse. But the changes most frequently remembered and attributed to this experience by the seniors were not intellectual but those affecting their personal and social development. Taken together these two categories accounted for 45 per cent of all changes attributed to Antioch Education Abroad. If these students were even moderately accurate in their reporting, the overwhelming influence of the extramural school faculty has been in changing students' perception of the college. The program they administer had a broad and powerful influence, these seniors reported, on all aspects of their development. But their personal influence was of a very different character. Let me point out, finally, that among these changes for which the student could not identify the agent, most (30 per cent) were in the rather nebulous category of personality development.

[7] Extramural faculty refers to those faculty members responsible for the off-campus work program and for Antioch Education Abroad.

[8] Under this program, students may spend a full year of work and study abroad.

A Summary Note: Research Needed

The student enters college with characteristics many of which are about to be altered in some degree—by his own design, by experiences contrived for him (as in the classroom), and by means unplanned and even unwittingly experienced. The traits he brings include aspirations and vocational plans, religious, political and aesthetic preferences, knowledge, and skills. To these last we customarily pay much attention; to others rather little. Knowledge and skills we measure at point of entry and intermittently thereafter (on the assumption that teachers and books are instrumental in changing them). Although we have some crude information about what happens to a given input of knowledge, we do not know with any precision where, when, how, or how much change occurs in the student's knowledge or, more emphatically, in his other attributes.

Most teachers probably believe that they are influential, in some situations, in changing certain aspects of students' behavior. That is, of course, the presumption under which they're hired. The truth is that we don't know what we're doing. Nor will we know until such time as we can say what changes are wrought by whom.

The pursuit of peer influence as significant in the student's learning has led to the identification of a wide variety of "teachers" and a long roster of things taught. Among these teachers the student's peers seem to have an impressive influence. These data are exploratory and we cannot lean heavily on them. Nonetheless, this preliminary inquiry into changes and change agents suggests quite forcefully the following conclusions: (1) Change agents are numerous. (2) There is a great range of things learned. (3) The effective "teacher" may vary consistently with different types of learning or changes. (4) Our usual assumptions and conventional appraisal procedures neglect most of the "teachers" and most of the things taught. But if higher education is to be something other than a holding operation or an ill-considered act of faith, we need to know, as to relevant traits, what a student is when he enters, what he is when he leaves, and what accounts for the difference. We need to know who teaches what.